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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/307,574	05/07/1999	Phillip Mattison	042390.P4577	5046

7590

09/05/2003

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EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/307,574

Applicant(s)

MATTISON, PHILIP E.

Examiner

Thanh X Luu

Art Unit

2878

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 30
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 15, 2003 has been entered.

Claims 43-61 are currently pending.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the scaled version of the output being based, at least in part, on ambient light conditions must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 56 objected to because of the following informalities:

In claim 56, "the analog" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 43 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glasheen et al. (U.S. Patent 6,354,733).

Regarding claims 43 and 48, Glasheen et al. disclose (see Figure 6) an apparatus and method, comprising: an analog photocell (within 108); an amplifier (102), a first input to the amplifier being an output from the analog photocell, a second input to the amplifier being a reference voltage (from 120), the amplifier producing an output that is a scaled version of the output of the analog photocell, the scaling of the output being controlled by the reference voltage; and an analog to digital converter (104), hereinafter, A/D converter, converting the output of the amplifier to a digital value, the scaled version of the output of the analog photocell being chosen to match a dynamic range of the analog photocell with a dynamic range of the A/D converter and being based, at least in part, on ambient light conditions (see column 7, lines 45-65). Glasheen et al. do not specifically disclose the amplifier being a sample and hold amplifier, hereinafter, S/H amplifier. However, it is well known in the art that S/H amplifiers improve the accuracy of A/D conversion by keeping the input to the A/D converter stable. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made

to provide a S/H amplifier in the apparatus and method of Glasheen et al. to provide a more accurate A/D conversion and improve detection.

6. Claims 44-47 and 49-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glasheen et al. in view of Gordon et al. (U.S. Patent 3,833,903).

Regarding claims 44-46, 49-51, 53, 54 and 58, Glasheen et al. disclose the apparatus and method as claimed, as set forth above. Glasheen et al. do not specifically disclose the specific structure of the A/D converter as claimed. Gordon et al. teach (see Figure 2) an A/D converter comprising a voltage controlled oscillator (46), hereinafter, VCO, an input of the VCO being an analog input; and a counter (50) being driven by the output of the VCO. Thus, Gordon et al. recognize (see column 1, lines 37-39) that such a configuration is conventional and serves as a simple and inexpensive A/D converter. Further, the counter inherently stores value into a memory or register otherwise the count is lost. Gordon et al. also teach (see Figure 2) the counter is reset (RESET) after a certain period of time. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the A/D converter of Gordon et al. in the apparatus and method of Glasheen et al. as desired to reduce the cost and complexity of the apparatus and method.

Regarding claims 47, 52, 55-57 and 59-61, Glasheen et al. in view of Gordon et al. disclose the claimed invention as set forth above. The digital photocell is included in a (one) pixel array. Glasheen et al. and Gordon et al. do not specifically disclose the time period is an integration period of the analog photocell. However, it is well known in the art to provide correct timing and integration in such an A/D converter circuit to obtain

a desired conversion. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the time period as the integration time of the photocell in the apparatus of Glasheen et al. in view of Gordon et al. to provide the desired optimal A/D conversion.

Response to Arguments

7. Applicant's arguments with respect to claims 43-61 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
August 22, 2003


Thanh X. Luu
Patent Examiner